

Cont
A2

Catherine Dulac and Richard Axel
U.S. Serial No. Not Yet Known
Filed: Herewith
Page 2

- (a) the loop between the second and third transmembrane domains of the protein, the third transmembrane domain, and the loop between the third and fourth transmembrane domains together comprise consecutive amino acids having the following sequence: -R, G, L or F, S or T or N, L, C or S, A or T, T or A or S, C, L or M, L, S or N or H, V or I, L or F, Q or W, A or T or M, I or F, I or T, L, S, P or S, R or K, S or K, S, C, L, A or T, K or T, F or Y, K, H or Y, K or N- (SEQ ID NO: 19);
- (b) the loop between the fifth and sixth transmembrane domains of the protein, and the sixth transmembrane domain together comprise consecutive amino acids having the following sequence: -K, A or S or V, S, P, E or Q, Q, R, A, T, R or Q or E, T or S, I, L or M, M or L or I, L, M or R, S or T, F or L, F, V or G, V or L- (SEQ ID NO: 20); and
- (c) the seventh transmembrane domain of the protein comprises consecutive amino acids having the following sequence: -Y, A, T, V or I or L, S, P or S, F or L, V or L, F or L- (SEQ ID NO: 21).--

--In one embodiment, the receptor protein is characterized by at least two of the characteristics of (a) through (c). In one embodiment, the receptor protein is characterized by all of the characteristics of (a) through (c).--

--This invention provides an isolated nucleic acid comprising consecutive nucleotides encoding a vertebrate pheromone receptor protein, wherein the nucleic acid encodes a protein selected from the group consisting of:

- i) VN1 protein comprising consecutive amino acids having a sequence identical to the sequence set forth in SEQ ID NO: 8,

fat
A2
Catherine Dulac and Richard Axel
U.S. Serial No. Not Yet Known
Filed: Herewith
Page 3

- ii) VN2 protein comprising consecutive amino acids having a sequence identical to the sequence set forth in SEQ ID NO: 9,
- iii) VN3 protein comprising consecutive amino acids having a sequence identical to the sequence set forth in SEQ ID NO: 10,
- iv) VN4 protein comprising consecutive amino acids having a sequence identical to the sequence set forth in SEQ ID NO: 11,
- v) VN5 protein comprising consecutive amino acids having a sequence identical to the sequence set forth in SEQ ID NO: 12,
- vi) VN6 protein comprising consecutive amino acids having a sequence identical to the sequence set forth in SEQ ID NO: 13,
- vii) VN7 protein comprising consecutive amino acids having a sequence identical to the sequence set forth in SEQ ID NO: 14, and
- viii) a protein that shares between 47% and 87% amino acid sequence identity with any one of the proteins of i) - vii).--

A3
On page 29, line 28, please add the following the following paragraph:

--A method of preparing a composition which comprises identifying a compound using any of the methods described herein, recovering the compound free of any pheromone receptor, and admixing the compound with a pharmaceutically acceptable carrier.--

On pages 63-89, please delete the SEQUENCE LISTING and replace it with the SEQUENCE LISTING attached hereto as **EXHIBIT 1**.